

5.2

$$29. f'(x) = x \quad f(x) = \frac{x^2}{2} + C$$

$$31. f'(x) = 3x^2 - 2x + 1 \quad f(x) = x^3 - x^2 + x + C$$

$$33. f'(x) = e^x \quad f(x) = e^x + C$$

$$35. f'(x) = \frac{1}{x^2}, \quad x > 0, \quad P(2, 1)$$

$$f(2) = 1 \quad f(x) = -\frac{1}{x} + C \quad 1 = -\frac{1}{2} + C$$

$$C = 1\frac{1}{2} \quad f(x) = -\frac{1}{x} + \frac{3}{2}$$

$$37. f'(x) = \frac{1}{x+2}, \quad x > -2, \quad P(-1, 3) \quad f(-1) = 3$$

$$f(x) = \ln(x+2) + C \quad 3 = \ln(-1+2) + C$$

$$3 = \ln 1 + C \quad 3 = C \quad f(x) = \ln(x+2) + 3$$

$$38. f'(x) = 2x + 1 - \cos x, \quad P(0, 3) \quad f(0) = 3$$

$$f(x) = x^2 + x - \sin x + C \quad 3 = 0^2 + 0 - \sin 0 + C$$

$$3 = -\sin 0 + C \quad 3 = C \quad f(x) = x^2 + x - \sin x$$